

THE ROLE OF THE LABORATORY IN THE DRE PROGRAM

- More attention given to DRE cases.
 - More testing may be performed based on DRE opinion.
- Court testimony.
 - Corroborate DRE opinion.
 - Provide a possible explanation if DRE opinion is not consistent with lab results.

WHAT CAN A TOXICOLOGIST SAY IN COURT?

- Results of the analysis & interpretation.
- How the analysis was performed.
- How the drug found affects human physiology and performance.
- Whether a drug causes symptoms observed by the DRE / officer.
- Why the results may not be consistent with a DRE's opinion.
- Specimen issues.

THE ULTIMATE ISSUE

Can a toxicologist say that a person was "definitely impaired"?

In general, no.

The officer / DRE establishes impairment...the toxicology results show the possible source of the impairment.

On The Horizon

- The lab is developing methods to provide quantitative levels of some drugs in blood.

- Current quantitative methods:

THC	Cocaine
Amphetamines	Opiates
Benzodiazepines	Methadone
Carisoprodol/Meprobamate	Zolpidem

Quantitation Cut Off Values

- THC – 2 ng/mL (carboxy-THC qualitative)
- Amphetamines – 25 ng/mL
- Methamphetamine – 10 ng/mL
- Benzodiazepines – 5 ng/mL (7-aminoclonazepam qual.)
- Lorazepam – 10 ng/mL
- Cocaine and Metabolites – 25 ng/mL (BE qualitative)

Quantitation Cut Off Values

- Opiates – 5 ng/mL
- 6-MAM and Codeine – 2 ng/mL
- Morphine – 10 ng/mL
- Methadone – 20 ng/mL
- Carisoprodol – 1000 ng/mL
- Meprobamate – 1000 ng/mL
- Zolpidem – 5 ng/mL

What Do The Numbers Mean?

- Cases are best handled on a case by case basis.
- Documented case facts are a critical component of any toxicological interpretation.

What Do The Numbers Mean?

- Some Considerations:
 - Sample collection time
 - Length of time sample is in storage
 - Fatigue and medical conditions

What Do The Numbers Mean?

- Some Considerations:
 - Withdrawal Effects
 - Tolerance
 - Drug Combinations

What Do The Numbers Mean?

● THC:

- Most scientific research deals with plasma, not whole blood (5 ng/mL plasma = 2.75 ng/mL whole blood).
- THC typically falls below 2.75 ng/mL less than 3 hours after ingestion.
- Effects typically last 6-8 hours depending on dose.
- * Some residual cognitive effects may be seen up to longer depending on THC content.

What Do The Numbers Mean?

● Cocaine:

- Cocaine in blood is consistent with use within the last 5-6 hours.
- Effects typically last 1-2 hours depending on dose.
- Late phase effects (following binge use) may last several days.

What Do The Numbers Mean?

● Methamphetamine:

- General effects of methamphetamine last 4 – 8 hours depending on dose and method of administration.
- Residual effects can last up to 12 hours.

What Do The Numbers Mean?

● Opiates (Morphine):

- Tolerance makes interpretation difficult.
- Effects typically last 4-6 hours depending on dose.
- Duration of analgesia increases with age, but the degree of analgesia remains the same.

What Do The Numbers Mean?

● Some drugs may actually enhance a persons ability to drive safely:

- Elderly, Those With Anxiety
- Therapeutic Levels
- Tolerance to Side Effects

What Do The Numbers Mean?

In some cases blood concentrations can be used to distinguish therapeutic use from abuse.
